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10/646,179

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Jen-Lin Chao

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EXAMINER

JARRETT, SCOTT L

ART UNIT

PAPER NUMBER

3624

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/646,179	<b>Applicant(s)</b> CHAO ET AL.	
	<b>Examiner</b> SCOTT L. JARRETT	<b>Art Unit</b> 3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 11-15 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11-15 and 21-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This Non-Final Office Action is in response to Applicant's Request for Continued Examination and amendments filed January 27, 2009. Applicant's amendment amended claims 1-5, 11-15 and 21-25, claims 6-10, 16-20 and 26-30 being previously canceled. Currently claims 1-5, 11-15 and 21-25 are pending.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 27, 2009 has been entered.

#### ***Response to Amendment***

3. The 35 U.S.C. 112(1) rejection of claims 1-5, 11-15 and 21-25 are withdrawn in response to applicant's amendments to claims 1-5, 11-15 and 21-25.

4. The 35 U.S.C. 101 rejection of claims 1-5, 11-15 and 21-25 is maintained. Applicant's amendment to claim, with the additional of an electronic device in the preamble of the independent claims 1, 11 and 21 is insufficient to overcome this rejection.

Initially it is noted that the recitation "an electronic device" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Further, the recitation in the preamble of an electronic device is merely a nominal recitation of structure wherein nominal recitations of structure in an otherwise ineligible method fail to make the method a statutory process. See *Benson*, 409 U.S. at 71-72. As *Comiskey* recognized, "the mere use of the machine to collect data necessary for application of the mental process may not make the claim patentable subject matter." *Comiskey*, 499 F.3d at 1380 (citing *In re Grams*, 888 F.2d 835, 839-40 (Fed. Cir.1989)). Incidental physical limitations, such as data gathering, field of use limitations, and post-solution activity are not enough to convert an abstract idea into a statutory process. In other words, nominal or token recitations of structure in a method claim do not convert an otherwise ineligible claim into an eligible one.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-5, 11-15 and 21-25 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 3, 13 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: what method steps, if any, are performed when the first quantity **does not** exceed a predetermined ratio of the expected quantity.

For the purposes of examination the examiner interpreted claims 3, 13 and 23 to read, when the first quantity **does not** exceed a predetermined ratio of the expected quantity:

The demand dispatching method as claimed in claim 1 further comprising:

*< method steps end; the third quantity of the low risk demand of a second demand is not dispatched).*

8. Claims 5, 15 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: what method steps, if any, are performed when the variation in the first quantity of the low risk demand **does not** show a downward trend.

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For the purposes of examination the examiner interpreted claims 5, 15 and 25 3 to read, when the variation in the first quantity of the low risk demand **does not** show a downward trend:

The demand dispatching system as claimed in claim 3 further comprising the steps of: monitoring the variation in the first quantity of the low risk demand of the first fabrication

*<method steps end when the variation in the first quantity of the low risk demand **does not** show a downward trend>*

***Claim Rejections - 35 USC § 101***

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 1-5, 11-15 and 21-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Based on Supreme Court precedent, a method/process claim must (1) be tied to another statutory class of invention (such as a particular apparatus) (see at least *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing (see at least *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972)).

A method/process claim that fails to meet one of the above requirements is not in compliance with the statutory requirements of 35 U.S.C. 101 for patent eligible subject matter. Here claims 1-5, 11-15 and 21-25 fail to meet the above requirements because they are not tied to another statutory class of invention.

Nominal recitations of structure in an otherwise ineligible method fail to make the method a statutory process. See *Benson*, 409 U.S. at 71-72. As *Comiskey* recognized, "the mere use of the machine to collect data necessary for application of the mental process may not make the claim patentable subject matter." *Comiskey*, 499 F.3d at 1380 (citing *In re Grams*, 888 F.2d 835, 839-40 (Fed. Cir.1989)). Incidental physical

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limitations, such as data gathering, field of use limitations, and post-solution activity are not enough to convert an abstract idea into a statutory process. In other words, nominal or token recitations of structure in a method claim do not convert an otherwise ineligible claim into an eligible one.



***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-5, 11-15 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leachman et al., IMPReSS: An Automated Production-Planning and Delivery-Quotation System at Harris Semiconductor Corporation - Semiconductor Sector (1996) in view of Cargille et al., U.S. Patent Publication No. 2003/0050817 and further in view of Shipman, U.S. Patent No. 5,819,232.

Regarding Claims 1, 11 and 21 Leachman et al. teach a demand dispatching method for use in an electronic device to manage a first fabrication with a production line having a capacity comprising:

- receiving a first demand (Column 2, Paragraph 3, Page 10; Figure 1);
- providing a (risk) database recording (risk) information for a first demand, wherein the (risk) information comprises a low risk percentage (set, portion, partition, bin, etc.) of the first demand (committed orders, order board class, confirmed orders, reliable portion; Column 2, Page 11; Column 1, Last Two Paragraphs, Page 12; Column 1, Paragraph 2, Page 16; Column 3, Last Two Paragraphs, Page 19), and a high risk percentage (part, portion) of the first demand (forecast, unrealized orders, speculative forecasts, unsupported orders, etc.; Column 2, Page 11; Column 2, Last Two

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Paragraphs, Page 12; Column 1, Paragraph 2, Page 16; Column 3, Last Two

Paragraphs, Page 19; Figures 1, 2);

- accounting for the possibility of an order becoming or not becoming an actual order (Column 2, Page 11; Column 1, Last Two Paragraphs, Page 12; Column 1, Paragraph 2, Page 16; Column 3, Last Two Paragraphs, Page 19);

- determining an expected quantity of the first fabrication (Column 1, Last Paragraph, Page 13; Column 2, Paragraph 1, Page 13; Column 2, Last Two Paragraphs, Page 19; Column 1, Paragraphs 1-2, Page 26; Column 2, Paragraph 2, Page 27; Figure 7, Modules 1, 4); and

- managing the capacity of the first fabrication by dispatching (allocating, assigning, distributing, scheduling, etc.) portions of the low and high risk demand to the first fabrication according to the expected quantity, and the probability of a demand becoming an actual order (to allocation the capacity of the first fabrication - merely recites intended use), wherein a first quantity of the low risk demand and a second quantity of the high risk demand are dispatched to the first fabrication (Last Two Paragraphs, Page 19; Column 2, Paragraph 2, Page 20; Column 2, Paragraph 2, Page 27; Figures 2, 3).

While Leachman et al. teaches accounting for the possibility of a demand becoming/not becoming an actual order (e.g. uncertain forecast, reliable portion, etc.) as discussed above Leachman et al. does not expressly teach utilizing an first/second order rates as claimed.

Cargille et al. teach utilizing order rates representing the possibility (likelihood, probability, certainty, etc.) of an demand becoming an actual order (Figure 2; Paragraphs, 6, 17, 38; Appendix A,  $D_u$ ,  $D_{cv}$ ; Appendix C, Section C, Equations 1, 2) and wherein the low risk demand is obtained by multiplying the first percentage and the high risk demand is obtained by multiplying the first demand by the second percentage (Paragraphs, 6, 17, 38; Appendix A,  $D_u$ ,  $D_{cv}$ ; Appendix C, Section C, Equations 1, 2) in an analogous art of demand dispatching for the purpose of accounting for the uncertainty of demand when planning production (Paragraph 38).

It would have been obvious to one skilled in the art at the time of the invention that the demand dispatching system and method as taught by Leachman et al. would have benefited from utilizing order rates wherein the (first/second) order rates are the possibility (probability, confidence, certainty, etc.) of low/high risk portions of the demand becoming an actual order in view of the teachings of Cargille et al., since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Neither Leachman et al. nor Cargille et al. expressly teach that an amount of the first demand multiplied by the first order rate and the second quantity multiplied by the second order rate is equal to or greater than the expected quantity as claimed.

Shipman teaches a demand dispatching system and method wherein an amount of the first demand multiplied by the first order rate and the second quantity multiplied by the second order rate is equal to or greater than the expected quantity (Column 5, Lines 55-68; Column 6, Lines 15-23) as well as dividing demand into low and high risk demands (actual orders, forecasted) and utilizing an order rate to multiply demand by the probability of a demand becoming an actual order (Column 3, Lines 49-66; Column 5, Lines 55-65; Column 9, Lines 1-14; Column 16, Lines 15-30) in an analogous art of demand dispatching for the purpose of more accurately forecasting and planning future demand (Column 6, Lines 15-23).

It would have been obvious to one skilled in the art at the time of the invention that the demand dispatching system and method as taught by the combination of Leachman et al. and Cargille et al. would have benefited determining an amount of the first demand multiplied by the first order rate and the second quantity multiplied by the second order rate is equal to or greater than the expected quantity in view of the teachings of Shipman, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same

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function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

It is noted that the various labels applied/used to describe various claim elements (e.g. *risk* database, *risk* information, *low risk* demand, *high risk* demand) merely represent non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific labels used to describe the various databases, information and/or demands. Further, the structural elements remain the same regardless of the specific labels used to describe the various databases, information and/or demands. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.

Further it is noted that the phrase “*is considered* as an overestimated part of the first demand” is merely a recitation of intended use and/or non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of whether or not the demand is considered overestimated or not. Further, the structural elements remain the same regardless of whether or not the demand is considered overestimated or not. Thus, this descriptive material will not distinguish the

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claimed invention from the prior art in terms of patentability, *see In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.

Regarding Claims 2, 12 and 22 Leachman et al. does not expressly teach the dispatching rule as claimed.

Both Cargille et al. and Shipman teach a system and method wherein the dispatching step utilizing the following dispatching rule:  $EQ \text{ (expected quantity)} = FQ \text{ (first quantity)} * FOR \text{ (first order rate)} + SQ \text{ (second quantity)} * SOR \text{ (second order rate)}$  (Cargille: Paragraphs, 6, 17, 38; Appendix A, D<sub>u</sub>, D<sub>cv</sub>; Appendix C, Section C, Equations 1, 2; Shipman: Column 7, Lines 5-55; Column 9, Lines 1-14) in an analogous art of demand dispatching.

It would have been obvious for one skilled in the art at the time of the invention that the demand dispatching system and method as taught by Leachman et al. would have benefited from using the claimed dispatching rule in view of the teachings of Cargille et al. and/or Shipman, in that the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding Claims 3, 13 and 23 Leachman et al. teach a system and method further comprising dispatching a third quantity of the low risk demand of a second demand dispatched to a second fabrication to the first fabrication (Column 2, Last Paragraph, Page 26; Column 1, Last Paragraph, Page 27; Column 2, Last Paragraph, Page 28; Figure 7, Module 4) *if* the difference between the expected quantity and the first quantity exceeds a predetermined ratio of the expected quantity.

Regarding Claims 4, 14 and 24 Leachman et al. teach a system and method further comprising dispatching a remnant quantity of the high risk demand of the first demand to the second fabrication (Column 2, Last Paragraph, Page 26; Column 1, Last Paragraph, Page 27; Column 2, Last Paragraph, Page 28; Figure 7, Module 4).

Regarding Claims 5, 15 and 25 Leachman et al. teach a system and method further comprising:

- monitoring the variation in the first quantity of the low risk demand of the first fabrication (Column 2, Paragraph 2, Page 27); and
- dispatching a (pilot, test) order to the first fabrication (Column 2, Paragraph 3, Page 12; Figure 5) *if* the variation of the first quantity of low risk demand shows a downward trend.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Chin et al., U.S. Patent No. 5,818,716, teach a demand dispatching system and method for use in an electronic device to manage a first fabrication with a production line comprising a prioritized demand dispatching rule.

- Cheng et al., U.S. Patent No. 6,006,192, teach a demand dispatching system and method wherein the uncertainty of demand is accounted for in the production scheduling process.

- Milne et al., U.S. Patent NO. 6,049,742, teach a demand dispatching system and method in a semiconductor fabrication environment wherein demands are received and divided into a plurality of portions/parts ("fractional splits") including a projected/estimate demand and actual orders.

- Dietrich, U.S. Patent No. 6,272,389, teach a demand dispatching/allocation system and method comprising dividing demands into sets of demands and scheduling the demand on a production line based on capacity constraints.

- Fox, U.S. Patent No. 6,253,187, teach a demand dispatching system and method comprising allocating demand based on the probability/possibility that the demand will become an actual order.

- Wang et al., U.S. Patent Publication No. 2005/0038684, teach a demand dispatching system and method.



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- Tamura et al., Designing Customer Oriented Production Planning System (COPPS, 1995), teach a capacitated demand, both forecasted and actual demands, dispatching/scheduling system.
- Bermon et al., Capacity Optimization Planning System (CAPS, 1999), teach a demand allocation system and method for optimized capacity planning.
- Karabuk, Coordinating Capacity Decisions For The Supply Chain in High-Tech Industry (2001), teach a system/method for solving the semiconductor allocation problem (Chapter 3.3, Pages 58+) wherein demands include actual orders (low risk) and forecasted orders (high risk); accounting for the uncertainty of demand (possibility of a demand becoming an actual order; Pages 53-54, 59-60) models as probabilities.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SCOTT L. JARRETT whose telephone number is (571)272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bradley Bayat can be reached on (571) 272-6704. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott L Jarrett/  
Primary Examiner, Art Unit 3624